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DATE: Monday, May 16, 2005

<u>Hide?</u>	<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>
		<i>DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L3	thioredoxin reductase same aureus and crystal\$9	6
		<i>DB=USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L2	thioredoxin reductase same aureus and crystal\$9	3
<input type="checkbox"/>	L1	thioredoxin reductase same aureus same crystal\$9	1

END OF SEARCH HISTORY

Hit List

Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs
Generate GACS				

Search Results - Record(s) 1 through 3 of 3 returned.

1. Document ID: US 6767536 B1

L2: Entry 1 of 3

File: USPT

Jul 27, 2004

US-PAT-NO: 6767536

DOCUMENT-IDENTIFIER: US 6767536 B1

** See image for Certificate of Correction **

TITLE: Recombinant *Staphylococcus* thioredoxin reductase and inhibitors thereof useful as antimicrobial agents

DATE-ISSUED: July 27, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Aharonowitz; Yair	Hod Hasharon			IL
Borovok; Ilya	Ariel			IL
Cohen; Gerald	Raanana			IL
Uziel; Orit	Kfar-Saba			IL
Katz; Leonard	Oakland	CA		

US-CL-CURRENT: 424/93.42; 424/139.1, 424/165.1, 424/185.1, 424/237.1, 424/243.1,
424/94.1, 435/191, 435/252.3, 435/36, 435/471, 435/7.33, 435/7.7, 435/91.1,
435/91.5, 435/91.51

ABSTRACT:

Isolated and purified *Staphylococcus* thioredoxin reductases (TrxB) are provided. Polynucleotides encoding the TrxBs, vectors and host cells containing such polynucleotides are also provided. In addition, antibodies reactive with the TrxBs are provided, as are methods of isolating the TrxBs, as well as methods for producing recombinant TrxBs, using TrxBs for screening compounds for TrxB-modulating activity, and detecting *Staphylococcus* in a test sample.

8 Claims, 9 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KINIC	Drawn De
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2. Document ID: US 6559294 B1

L2: Entry 2 of 3

File: USPT

May 6, 2003

US-PAT-NO: 6559294
DOCUMENT-IDENTIFIER: US 6559294 B1
** See image for Certificate of Correction **

TITLE: Chlamydia pneumoniae polynucleotides and uses thereof

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Griffais; Remy	Momtrouge			FR
Hoiseth; Susan K.	Fairport	NY		
Zagursky; Robert John	Victor	NY		
Metcalf; Benjamin J.	Rochester	NY		
Peek; Joel A.	Pittsford	NY		
Sankaran; Banumathi	Penfield	NY		
Fletcher; Leah Diane	Geneseo	NY		

US-CL-CURRENT: 536/23.1; 435/320.1, 435/69.1, 435/70.1, 536/24.1

ABSTRACT:

The subject of the invention is the genomic sequence and the nucleotide sequences encoding polypeptides of *Chlamydia pneumoniae*, such as cellular envelope polypeptides, which are secreted or specific, or which are involved in metabolism, in the replication process or in virulence, polypeptides encoded by such sequences, as well as vectors including the said sequences and cells or animals transformed with these vectors. The invention also relates to transcriptional gene products of the *Chlamydia pneumoniae* genome, such as, for example, antisense and ribozyme molecules, which can be used to control growth of the microorganism. The invention also relates to methods of detecting these nucleic acids or polypeptides and kits for diagnosing *Chlamydia pneumoniae* infection. The invention also relates to a method of selecting compounds capable of modulating bacterial infection and a method for the biosynthesis or biodegradation of molecules of interest using the said nucleotide sequences or the said polypeptides. The invention finally comprises, pharmaceutical, in particular vaccine, compositions for the prevention and/or treatment of bacterial, in particular *Chlamydia pneumoniae*, infections.

13 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Journal	Volume	Page	Claims	KINIC	Draw	De
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3. Document ID: US 20030166843 A1, WO 200177309 A2, AU 200149786 A

L2: Entry 3 of 3

File: DWPI

Sep 4, 2003

DERWENT-ACC-NO: 2002-034237

DERWENT-WEEK: 200359

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TITLE: Crystallizing *Staphylococcus aureus* thioredoxin reductase molecule or

molecular complex by preparing purified thioredoxin reductase and crystallizing from solution comprising dimethyl sulfoxide and sodium formate

INVENTOR: BENSON, T E

PRIORITY-DATA: 2000US-195055P (April 6, 2000), 2001US-0825212 (April 3, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 20030166843 A1</u>	September 4, 2003		000	C07K001/00
<u>WO 200177309 A2</u>	October 18, 2001	E	147	C12N009/02
<u>AU 200149786 A</u>	October 23, 2001		000	C12N009/02

INT-CL (IPC): C07 K 1/00; C07 K 14/00; C07 K 17/00; C12 N 9/02; C12 Q 1/26; G06 F 17/50

ABSTRACTED-PUB-NO: WO 200177309A

BASIC-ABSTRACT:

NOVELTY - Crystallizing (M1) Staphylococcus aureus thioredoxin reductase molecule or molecular complex involves preparing purified S.aureus thioredoxin reductase at a concentration of about 1-50 mg/ml, and crystallizing the thioredoxin reductase from a solution at a pH of about 6-10 and comprising about 0-40 weight% dimethyl sulfoxide (DMSO) and about 100 mM-6 M sodium formate.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a molecule or molecular complex (I) comprising at least a portion of an S.aureus thioredoxin reductase or thioredoxin reductase-like FAD binding site, where the FAD binding site comprises the amino acids such as Ile 12 or Gly 13 defined in the specification, and is defined by a set of points having a root mean square deviation of less than about 1.1 Angstrom from points representing the backbone atoms of the amino acids as represented by the structure coordinates defined in the specification;

(2) a molecule or molecular complex (II) comprising at least a portion of an S.aureus thioredoxin reductase or thioredoxin reductase-like NADPH binding site, where the NADPH binding site comprises Cys 135, Cys 138, and the amino acids such as Asn 52 or Ala 136 defined in the specification, and is defined by a set of points having a root mean square deviation of less than about 0.8 Angstrom from points representing the backbone atoms of the amino acids as represented by the structure coordinates defined in the specification;

(3) a molecule or molecular complex (III) that is structurally homologous to an S.aureus thioredoxin reductase molecule or molecular complex, where the molecule or molecular complex is represented by at least a portion of the structure coordinates defined in the specification;

(4) a scalable three dimensional configuration of points (IV), where at least a portion of the points or substantially all of the points are derived from structure coordinates of at least a portion of an S.aureus thioredoxin reductase molecule or molecular complex defined in the specification and comprises at least one of a thioredoxin reductase or thioredoxin reductase-like FAD binding site or an NADPH binding site;

(5) a machine-readable data storage medium (V) comprising a data storage material encoded with machine readable data which, when using a machine programmed with instructions for using the data, is capable of displaying a graphical three-

dimensional representation of at least one molecule or molecular complex selected from (I), (II) or (III);

(6) a machine-readable data storage medium (VI) comprising a data storage material encoded with a first set of machine readable data which, when combined with a second set of machine readable data, using a machine programmed with instructions for using the first set of data and the second set of data, can determine at least a portion of the structure coordinates corresponding to the second set of machine readable data, where the first set of data comprises a Fourier transform of at least a portion of the structural coordinates for *S.aureus* thioredoxin reductase defined in the specification, and the second set of data comprises an X-ray diffraction pattern of a molecule or molecular complex of unknown structure;

(7) obtaining (M2) structural information about a molecule or a molecular complex of unknown structure involves crystallizing the molecule or molecular complex, generating an X-ray diffraction pattern from the crystallized molecule or molecular complex, and applying at least a portion of the structure coordinates defined in the specification to the X-ray diffraction pattern to generate a three-dimensional electron density map of at least a portion of the molecule or molecular complex whose structure is unknown;

(8) homology modeling (M3) an *S.aureus* thioredoxin reductase homolog involves aligning the amino acid sequence *S.aureus* thioredoxin reductase homolog with an amino acid sequence *S.aureus* thioredoxin reductase and incorporating the sequence of the *S.aureus* thioredoxin reductase homolog into a model of *S.aureus* thioredoxin reductase derived from structure coordinates defined in the specification to yield a preliminary model of the *S.aureus* thioredoxin reductase homolog, subjecting the preliminary model to energy minimization to yield an energy minimized model, and remodeling regions of the energy minimized model where stereochemistry restraints are violated to yield a final model of the *S.aureus* thioredoxin reductase homolog;

(9) a computer-assisted method (M4) for identifying an inhibitor of *S.aureus* thioredoxin reductase activity involves supplying a computer modeling application with a set of structure coordinates of a molecule or molecular complex, where the molecule or molecular complex comprises at least a portion of an *S.aureus* thioredoxin reductase or thioredoxin reductase-like FAD or NADPH binding site, supplying the computer modeling application with a set of structure coordinates of a chemical entity, and determining whether the chemical entity is an inhibitor expected to bind to or interface with the molecule or molecular complex, where binding to or interfering with the molecule or molecular complex is indicative of potential inhibition of *S.aureus* thioredoxin reductase activity;

(10) making (M5) an inhibitor of *S.aureus* thioredoxin reductase activity, involves chemically or enzymatically synthesizing a chemical entity to yield an inhibitor of *S.aureus* thioredoxin reductase activity, where the chemical entity has been identified during M4;

(11) an inhibitor (VII) of *S.aureus* thioredoxin reductase activity identified, designed or made by M4 or 'M5;

(12) a composition (VIII) comprising (VII) or its salt; and

(13) a crystal (IX) of *S.aureus* thioredoxin reductase.

ACTIVITY - None given.

MECHANISM OF ACTION - Inhibitor of *S.aureus* thioredoxin reductase activity (claimed). No supporting data is given.

USE - M1 is useful for crystallizing a *S.aureus* thioredoxin reductase molecule or

molecular complex (claimed). The crystal obtained by M1 is useful for solving the structure of other molecules or molecular complexes, and designing inhibitors of *S.aureus* thioredoxin reductase. (VIII) is useful for preventing and treating *S.aureus* thioredoxin reductase mediated disease.

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn D](#)

[Clear](#)

[Generate Collection](#)

[Print](#)

[Fwd Refs](#)

[Bkwd Refs](#)

[Generate OACS](#)

Terms

Documents

thioredoxin reductase same aureus and crystal\$9

3

Display Format: [Change Format](#)

[Previous Page](#)

[Next Page](#)

[Go to Doc#](#)

Hit List

Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs
Generate CACS				

Search Results - Record(s) 1 through 6 of 6 returned.

1. Document ID: US 20040006218 A1

L3: Entry 1 of 6

File: PGPB

Jan 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040006218
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040006218 A1

TITLE: Chlamydia pneumoniae polynucleotides and uses thereof

PUBLICATION-DATE: January 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Griffais, Remy	Montrouge	NY	FR	
Hoiseth, Susan K.	Fairport	NY	US	
Zagursky, Robert John	Victor	NY	US	
Metcalf, Benjamin J.	Rochester	NY	US	
Peek, Joel A.	Pittsford	NY	US	
Sankaran, Banumathi	Penfield	NY	US	
Fletcher, Leah Diane	Geneseo		US	

US-CL-CURRENT: 536/23.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Drawn D
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2. Document ID: US 20030211511 A1

L3: Entry 2 of 6

File: PGPB

Nov 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030211511
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030211511 A1

TITLE: Nucleic acids and proteins with thioredoxin reductase activity

PUBLICATION-DATE: November 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Briggs, Steven P.	Del Mar	CA	US	
Dalmia, Bipin K.	San Diego	CA	US	

del Val, Greg	Encinitas	CA	US
Desjarlais, John R.	Pasadena	CA	US
Heifetz, Peter	San Diego	CA	US
Luginbuhl, Peter	San Diego	CA	US
Muchhal, Umesh	Monrovia	CA	US

US-CL-CURRENT: 435/6

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KOMC](#) | [Drawn D](#)

3. Document ID: US 20030167524 A1

L3: Entry 3 of 6

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030167524

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030167524 A1

TITLE: Methods for the production of multimeric protein complexes, and related compositions

PUBLICATION-DATE: September 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Rooijen, Gijs Van	Alberta	CA	CA	
Zaplachinski, Steven	Alberta	CA	CA	
Heifetz, Peter-Bernard	San Diego	CA	US	
Briggs, Steven	Del Mar	CA	US	
Dalmia, Bipin Kumar	San Diego		US	
Val, Greg Del	San Diego		US	

US-CL-CURRENT: 800/281; 435/419

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KOMC](#) | [Drawn D](#)

4. Document ID: US 20030166843 A1

L3: Entry 4 of 6

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030166843

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030166843 A1

TITLE: Crystallization and structure determination of staphylococcus aureus thioredoxin reductase

PUBLICATION-DATE: September 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Benson, Timothy E.	Kalamazoo	MI	US	

US-CL-CURRENT: 530/350[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KNC](#) | [Drawn D](#) 5. Document ID: US 20030100743 A1

L3: Entry 5 of 6

File: PGPB

May 29, 2003

PGPUB-DOCUMENT-NUMBER: 20030100743
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030100743 A1

TITLE: Nucleic acids and proteins with thioredoxin reductase activity

PUBLICATION-DATE: May 29, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Dalmia, Bipin K.	San Diego	CA	US	
Briggs, Steven P.	Del Mar	CA	US	
Val, Greg del	Encinitas	CA	US	
Desjarlais, John R.	Pasadena	CA	US	
Heifetz, Peter	San Diego	CA	US	
Luginbuhl, Peter	San Diego	CA	US	
Muchhal, Umesh	West Covina	CA	US	

US-CL-CURRENT: 536/23.1; 435/4, 530/300[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KNC](#) | [Drawn D](#) 6. Document ID: US 20020120116 A1

L3: Entry 6 of 6

File: PGPB

Aug 29, 2002

PGPUB-DOCUMENT-NUMBER: 20020120116
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020120116 A1

TITLE: ENTEROCOCCUS FAECALIS POLYNUCLEOTIDES AND POLYPEPTIDES

PUBLICATION-DATE: August 29, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
KUNSCHE, CHARLES A.	ATLANTA	GA	US	
DILLON, PATRICK J.	CARLSBAD	CA	US	

BARASH, STEVEN

ROCKVILLE

MD

US

US-CL-CURRENT: 536/23.2; 435/252.3, 435/320.1, 435/69.1, 435/70.1, 435/71.1,
530/350, 530/387.9, 800/13

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KDDC](#) | [Display Options](#)

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Documents

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6

Display Format: [Change Format](#)

[Previous Page](#)

[Next Page](#)

[Go to Doc#](#)